



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,853	03/15/2001	Edward R. Wittke		5240

7590 12/18/2003
Joseph B. Taphorn
8 Scenic Drive
Hagan Farms
Poughkeepsie, NY 12603

EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
----------	--------------

2643

2

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/808,853

Applicant(s)

WITTKET AL.

Examiner

Alexander Jamal

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 2643

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Phone privacy and unobtrusiveness via voice cancellation".

Appropriate correction is required.

Claim Objections

1. Claim 14 objected to because of the following informalities: 'sr' should be 'are'.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 18** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the

Art Unit: 2643

invention. The claims are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: The claim states 'inputting from the transmission line before the modulator into a signal processor'. The claim as it is written is not clear on what is input into the signal processor. In the phrase 'outputs therefrom to a speaker near the microphone to generate a voice cancellation sound and to the modulator to subtract from the transmission line downstream from the modulator electrical voice cancellation sound signal...' it is not clear whether the microphone or modulator is subtracting from the transmission line.

3. **Claim 19** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim states 'providing omnidirectional voice cancellation sound from a set of speaker of which said speaker is just one near the microphone and arranged in a spherical pattern about the microphone'. A single speaker cannot form a pattern.

4. As **Claim 20** depends from rejected claim 19, it is also rejected.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2643

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1,2,4,5,7,15,16 rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al. (5526421), and further in view of Matouk et al (5625684).

a. Claim 1: Berger discloses an electrical voice transmission system comprising:

- i. An electrical transmission line. Berger discloses a device for a telephone (Fig. 1). A telephone inherently comprises an electrical transmission line for the purpose of connecting to a communications network.
- ii. Microphone 13 (Fig. 1) to pickup voice and deliver it to a transmission line.
- iii. Remote transmission block 22 (Fig. 2, Col 2 lines 47-55) that inherently comprises a modulator for the purpose of adapting the voice signal for transmission to a communications network via the electrical transmission line.
- iv. Speakers 14 near microphone 13 for providing a voice cancellation sound (Fig. 1, Col 2 lines 47-55).
- v. Signal processor 20 (Fig. 2) that receives an input from the transmission line (from telephone mouthpiece 13). It provides output to speakers 14 (Fig. 2) to generate a voice cancellation sound (Col 2 line 63 to Col 3 line 7).

However, Berger does not disclose that the processor also outputs a signal to the modulator (being located before the modulator in the downstream direction) to subtract the electrical voice cancellation sound that is picked up by the microphone.

Matouk teaches a system of active noise suppression in which environmental noise at a callers telephone is detected and a cancellation signal is generated by a processor to subtract the noise from the signal received by the recipient of the call (Col 1 line 54 to Col 2 line 6). The 'noise' mentioned by Matouk is any signal besides the direct speech from the caller to the handset microphone. The 'voice cancellation sound' being output in Berger's device would be considered 'noise' by the telephone handset microphone as it did not come directly from the caller. As such, it would have been obvious to one of ordinary skill in the art at the time of this application to use the detected noise signal (the voice cancellation signal is 'detected' by the signal processor) to cancel out the noise from the signal being sent to the recipient (called party) for the purpose of improving the called party's ability to understand the caller's voice.

b. Claim 2: Berger's device comprises a set of speakers 14 (Fig. 1, Col 2 lines 47-55) to provide voice cancellation sounds.

c. Claim 4: Berger's device comprises far field sensor 18 (Fig. 1, Col 2 lines 47-55) that is more remote from microphone 13 than speakers 14 as seen in Figure 1.

d. Claim 5: Matouk's noise detection system includes an additional environmental sensor 46 near speaker 37 (Fig. 1) to pickup any additional environmental noises (Col 2 lines 55-64). This sensor, in combination with Berger's sensor comprise a set of sensors that are more remote from the handset microphone than the error signal generating speaker.

Art Unit: 2643

e. **Claim 7:** Berger's device comprises a set of speakers 14 (Berger: Fig. 1, Col 2 lines 47-55) to provide voice cancellation sounds near microphone 13 (Berger: Fig. 1).

Berger's device also comprises far field sensor 18 (Berger: Fig. 1, Col 2 lines 47-55) that is more remote from microphone 13 than speakers 14 as seen in Figure 1. Matouk's noise detection system includes an additional environmental sensor 46 near speaker 37 (Matouk: Fig. 1) to pickup any additional environmental noises (Matouk: Col 2 lines 55-64). This sensor, in combination with Berger's sensor comprise a set of sensors that are more remote from the handset microphone than the error signal generating speaker.

f. **Claim 15:** Berger discloses an additional speaker 32 (Fig. 4 Col 3 lines 8-16) that is near microphone 33, and is for delivering voice (as it was spoken by the caller) into the microphone 33 (as is done in normal telephone operation).

g. **Claim 16:** Berger discloses an additional speaker 32 (Fig. 4 Col 3 lines 8-16) that is near microphone 33, and is for delivering voice (as it was spoken by the caller) into the microphone 33 (as is done in normal telephone operation).

3. **Claims 3,6,8,17** rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al. (5526421) and Matouk et al. (5625684) as applied to claims 1,2,4,5 and further in view of Pongsen (4006308).

a. **Claims 3,6,8:** Berger and Matouk disclose applicant's claims 1,2,4,5, but do not specify arranging the voice cancellation speakers and far-field sensors (microphones) respectively each in a spherical pattern about the handset microphone.

Art Unit: 2643

Ponsgen teaches that a spherically shaped speaker arrangement will offer a more natural reproduction of the original sound signal (Col 2 lines 25-46). It would have been obvious to one of ordinary skill in the art at the time of this application to arrange the voice cancellation speakers in a spherical pattern around their source (the handset microphone) for the purpose of producing a more natural reproduction of the original sound. In addition, it would have been obvious to one of ordinary skill in the art at the time of this application to position the far-field sensors in a similar arrangement (in a spherical pattern) as the voice cancellation speakers for the purpose of more accurately detecting the sound being produced by the speakers.

b. Claim 17: Berger discloses an additional speaker 32 (Fig. 4 Col 3 lines 8-16) that is near microphone 33, and is for delivering voice (as it was spoken by the caller) into the microphone 33 (as is done in normal telephone operation).

4. Claims 9,10,12,13 rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al. (5526421), and further in view of Matouk et al (5625684).

a. Claim 9: Berger discloses a device for attachment to a telephone handset (Col 3 lines 21-33) comprising:

- i.** Remote transmission block 22 (Fig. 2, Col 2 lines 47-55) that inherently comprises a modulator for the purpose of adapting the voice signal for transmission to a communications network via the electrical transmission line.
- ii.** Speakers 46 (Fig. 5) near microphone 13 (Fig. 1) for providing a voice cancellation sound (Fig. 1, Col 2 lines 47-55).

Art Unit: 2643

iii. Signal processor 20 (Fig. 2)(also part of Electrical components 44 in Fig. 5) that receives an input from the transmission line (from telephone mouthpiece 13). It provides output to speakers 46 (Fig. 5) to generate a voice cancellation sound (Col 2 line 63 to Col 3 line 7).

However, Berger does not disclose that the processor also outputs a signal to the modulator (being located before the modulator in the downstream direction) to subtract the electrical voice cancellation sound that is picked up by the microphone.

Matouk teaches a system of active noise suppression in which environmental noise at a callers telephone is detected and a cancellation signal is generated by a processor to subtract the noise from the signal received by the recipient of the call (Col 1 line 54 to Col 2 line 6). The 'noise' mentioned by Matouk is any signal besides the direct speech from the caller to the handset microphone. The 'voice cancellation sound' being output in Berger's device would be considered 'noise' by the telephone handset microphone as it did not come directly from the caller. As such, it would have been obvious to one of ordinary skill in the art at the time of this application to use the detected noise signal (the voice cancellation signal is 'detected' by the signal processor) to cancel out the noise from the signal being sent to the recipient (called party) for the purpose of improving the called party's ability to understand the caller's voice.

b. **Claim 10:** Berger's device comprises a set of speakers 46 (Fig. 5, Col 2 lines 47-55) to provide voice cancellation sounds.

Art Unit: 2643

c. **Claim 12:** Berger's device comprises far field sensor 43 (Fig. 5, Col 2 lines 47-55)

that is more remote from microphone 13 than speakers 14 as seen in Figures 1 and 5.

d. **Claim 13:** Matouk's noise detection system includes an additional environmental

sensor 46 near speaker 37 (Matouk: Fig. 1) to pickup any additional environmental noises

(Matouk: Col 2 lines 55-64). This sensor, in combination with Berger's sensor comprise

a set of sensors that are more remote from the handset microphone than the error signal generating speaker.

5. **Claims 11,14** rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al.

(5526421) and Matouk et al. (5625684) as applied to claims 9,10,12,13 and further in view of

Pongsen (4006308).

a. **Claims 11,14:** Berger and Matouk disclose applicant's claims 9,10,12,13 but do not

specify arranging the voice cancellation speakers and far-field sensors (microphones)

respectively each in a spherical pattern about the handset microphone.

Pongsen teaches that a spherically shaped speaker arrangement will offer a more natural reproduction of the original sound signal (Col 2 lines 25-46). It would have been obvious to one of ordinary skill in the art at the time of this application to arrange the voice cancellation speakers in a spherical pattern around their source (the handset microphone) for the purpose of producing a more natural reproduction of the original sound. In addition, it would have been obvious to one of ordinary skill in the art at the time of this application to position the far-field sensors in a similar arrangement (in a

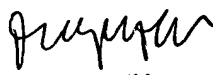
Art Unit: 2643

spherical pattern) as the voice cancellation speakers for the purpose of more accurately detecting the sound being produced by the speakers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
December 12, 2003


DUC NGUYEN
PRIMARY EXAMINER

Application/Control Number: 09/808,853

Art Unit: 2643

Page 11